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Attorney Docket No. 24024-510 NATL

GE Ref.: 31334

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Hasson et al.

SERIAL NUMBER:

10/564,777

EXAMINER:

Fereydoun Ghotb Sajjadi, Ph.D.

FILING DATE:

January 17, 2006

ART UNIT:

For:

METHODS FOR EX VIVO EXPANDING STEM AND PROGENITOR CELLS

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

TRANSMITTAL LETTER

Enclosed herewith for filing in the above-identified application please find the following documents:

- 1. Response to Restriction/Election Requirement (2 pages);
- 2. Return Postcard.

Although Applicants believe no fees are due with this submission, the Commissioner is hereby authorized to charge any fee that may be due to Deposit Account No. 50-0311, Reference No. 24024-510 NATL. A duplicate copy of this Transmittal Letter is enclosed.

Respectfully submitted

Ivor R. Elrifi, Reg. No. 39,529 Matthew Pavao, Reg. No. 50,572

Attorneys for Applicants c/o MINTZ LEVIN

Customer No.: 30623

Tel.: (617) 542-6000 Fax: (617) 542-2241

Dated: June 4, 2007

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1633

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METHODS FOR EX VIVO EXPANDING STEM AND PROGENITOR CELLS

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

RESPONSE TO RESTRICTION/ELECTION REQUIREMENT

This is in response to the Restriction Requirement dated May 2, 2007. A response is due on or before Monday, June 4, 2007. Applicants believe no additional fees are due. However, please charge any additional fees that may be due, or credit any overpayment of same, to Deposit Account No. 50-0311, Reference No. 24024-510 NATL.

Applicants elect the invention of Group I, comprising claims 1-23, drawn to a method of *ex-vivo* expanding stem and/or progenitor cells, while at the same time substantially inhibiting differentiation of said cells.

Applicants elect the following species, with traverse. Specifically, Applicants traverse the election of a specific cytokine. The Examiner has required election of a specific cytokine for providing conditions for cell proliferation (as in claims 10-13). Applicant wishes to point out that the culture of eukaryotic cells, in large and small volumes, requires numerous factors, among them combinations of factors including various growth factors and cytokines. This is particularly true of stem cell cultures.

In reducing the present invention to practice, cells were expanded *ex-vivo* and their differentiation inhibited while maintained in culture in medium comprising nutrients and different combinations of cytokines (see *Materials and Experimental Methods* of the instant specification), similar to the combinations of cytokines disclosed in US. Patent No: 7,169,605 to Peled et al. (also assigned to Gamida-Cell Ltd). Applicant wishes to stress that the state of the art at the time the invention was made is such that one of ordinary skill in the art would recognize the desirability of the use of nutrients and more than one cytokine for proliferation of the cells in culture. Thus, claim 10 recites the limitations of "nutrients and cytokines", and claim 11 further recites the limits of "early acting cytokines and late acting cytokines" rather than using the singular "cytokine".

Thus, Applicant respectfully requests reconsideration of the instant requirement for selection of a specific cytokine, and rejoining of the cytokines into groups as originally recited in the instant specification: election between early acting and late acting cytokines. In the event that this request for reconsideration of the instant requirement is favorably considered, Applicant elects early acting cytokines as the specific group of cytokines, as recited in claim 11. If, however, the requirement of election of a single species of cytokines is maintained, in spite of the abovementioned arguments, Applicants choose to elect the early acting cytokine FLT3 ligand.

For the specific culturing condition as in claims 1 and 27, Applicant elects step (vii)-conditions wherein said cells are cultured in the presence of a copper chelator.

Regarding specific inhibitors of PI3-kinase: see Election of specific culturing conditions, thus specific inhibitors of PI3-kinase are not included in the present search.

For the specific source of stem cells, Applicant elects hematopoietic.

For a specific bioreactor, Applicant elects stirred flask bioreactors.

For a specific porous scaffold, Applicant elects alginate.

Claims 1-23 read on the elected species.

Should there be any questions regarding these amendments and remarks, the Examiner is encouraged to contact the undersigned at the telephone number provided below.

Respectfully submitted

Ivor R. Elrifi, Reg. No. 39,529 Matthew Pavao, Reg. No. 50,572

Attorneys for Applicants

c/o MINTZ LEVIN

Customer No.: 30623 Tel.: (617) 542-6000 Fax: (617) 542-2241

Dated: June 4, 2007

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